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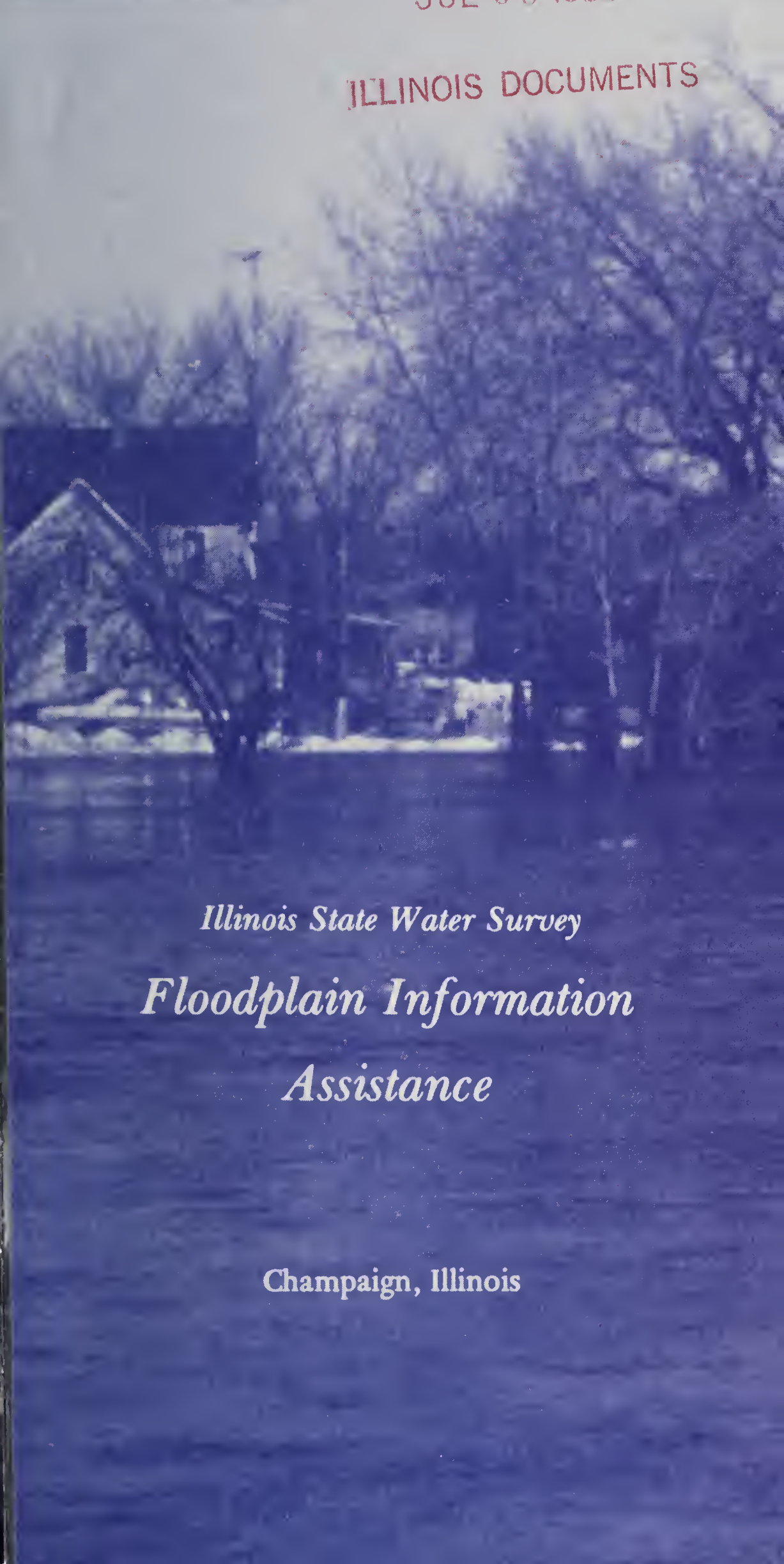
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ILLINOIS DOCUMENTS



*Illinois State Water Survey*  
*Floodplain Information*  
*Assistance*

Champaign, Illinois

Prepared in cooperation with  
the Illinois Department of  
Energy and Natural Resources

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## INTRODUCTION

A floodplain is defined as that land adjacent to a body of water which acts or may act hereafter as an additional channel and storage space to hold excess streamflows caused by heavy rains and/or melting snow. People's encroachment onto floodplains reduces the flood-carrying capacity of the floodplains, increases flood heights, and extends the flood hazard to areas beyond the encroachment itself. Of the 20,000 communities in the United States identified as having flood hazards, 711 are located in Illinois. The amount most often given as the average annual cost of flood damage in Illinois is \$100 million, although in recent years damage to agricultural, residential, public, and commercial property has exceeded this amount.

The State of Illinois has been very active in promoting and guiding activities for reducing nonstructural flood damage. A 1975 report by the Governor's Task Force on Flood Control presented a detailed assessment of the state's flood-related programs. In a section on the State of Illinois' Flood Damage Prevention Program, this report noted that the Illinois State Water Survey had been given responsibility for maintaining a repository of floodplain information. This repository was to include studies, maps, profiles, and other pertinent information so that all flood hazard information would be compiled at one central location.

In cooperation with the Illinois Department of Energy and Natural Resources and the Illinois Department of Transportation, Division of Water Resources (IDOT-DWR), the Illinois State Water Survey (ISWS) provides an important service for



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local building and zoning officials, engineers, architects, planners, lending institutions, insurance agents, realtors, appraisers, and homeowners. This brochure describes the Illinois Floodplain Information Repository and outlines how each of these user groups can avail themselves of this service, relevant to their individual needs. A detailed explanation of these and other ISWS floodplain services is available by writing to ISWS or by calling (217) 333-0447.

## **SERVICES PROVIDED TO USER GROUPS BY THE ILLINOIS FLOODPLAIN INFORMATION REPOSITORY**

### **A. Local Building and Zoning Officials**

#### **Reviews of Regulatory Flood Data**

When floodplain data are to be used for local regulation of construction and development, it is vital that local officials use the best data available. To assist them, ISWS provides three floodplain data review services.

##### *1. Flood Insurance Study Reviews*

All flood insurance studies that produce new detailed information go through the State Review Procedure in order to be certified by the Illinois Department of Transportation, Division of Water Resources (IDOT-DWR). The ISWS role is to review the 100-year flood discharges in accordance with the State Standard Method (SSM). The SSM compares the discharges with discharges compiled from a regression equation prepared by the U.S. Geological Survey.

IDOT-DWR compares the reported profiles and floodways with other studies and coordinates study reviews by local officials. The end result is that all flood insurance studies have their basic data double-checked and are consistent with other regulatory and 100-year flood studies. Studies that successfully make it through the State Review Procedure are certified by IDOT-DWR. Certification puts a study at the top of the reliability ranking used by ISWS.

## 2. *Reviews of Local Regulatory Studies*

For many areas, the only items of floodplain information provided by the National Flood Insurance Program (NFIP) are Flood Hazard Boundary Maps or approximate flood insurance study data. However, other agencies or private firms may have prepared flood studies for such areas. Section 1910.3(b)(4) of the NFIP *Rules and Regulations* (24 CFR, Section 1909-1910) requires local governments to obtain, review, and utilize such studies in their floodplain regulations.

Upon receipt of a flood study, ISWS will issue a letter stating whether the study is the best one available to the Repository and whether it should be used to meet the NFIP requirements.

There are three other types of local regulatory studies that ISWS will review:

- a. Studies done to comply with Section 1910.3(b)(3) of the NFIP *Rules and Regulations* (requires flood elevation studies for developments larger than 5 acres).

- b. Studies done to comply with Section 1910.3(c)(10) of the NFIP *Rules and Regulations* (requires encroachment [floodway] studies for new construction when a flood insurance study provides only flood elevation).
- c. Studies done to appeal a Flood Hazard Boundary Map or flood insurance study. ISWS will tell the requestor whether the appeal study has better data than those which went into the NFIP map.

### 3. *Provision of Base Flood Elevation Protection Standards*

ISWS will provide base flood (100-year) elevations from existing information. Where detailed floodplain data are not available on a case by case basis, ISWS will instead provide a 100-year flood depth.

## B. Engineers, Architects, and Planners

### **Flood Elevations, Flow Data, Maps, and Reports**

Before beginning a project near riverine areas, a determination must be made whether the area of interest is floodprone and to what extent. For example, permits issued by the Illinois Environmental Protection Agency require that water and wastewater treatment plants, hazardous waste sites, landfills, etc., be protected from the 100-year flood.

### **Cross Sections and Hydraulic Model Data from Flood Insurance Studies**

Flood insurance studies have been done for more than 450 Illinois communities. When projects are planned on those streams that

have been studied, it is important to have access to the engineering hydrologic and hydraulic calculations used to produce the detailed flood elevations in those studies. ISWS is accumulating these data as they become available from the Federal Emergency Management Agency.

## **C. Lending Institutions**

### **Flood Insurance Maps and Technical Assistance for Proper and Timely Location Determinations**

In communities that have joined the National Flood Insurance Program (NFIP), an NFIP flood insurance policy is mandatory for all federal and commercial loans for buildings located in Special Flood Hazard Areas. ISWS can aid banks in obtaining maps and technical assistance regarding floodplains.

## **D. Insurance Agents**

### **Assistance in Determining Accurate Zone Ratings**

Flood insurance premiums are based on the flood zone information shown on Flood Hazard Boundary Maps and Flood Insurance Rate Maps. ISWS can aid insurance companies in obtaining these maps and interpreting them.

## **E. Realtors, Appraisers, and Homeowners**

### **Flood Hazard Information**

Whether someone is appraising, selling, or buying property, ISWS can provide objective and current information regarding flood hazards from studies and maps on file.



# HOW THE ILLINOIS FLOODPLAIN INFORMATION REPOSITORY OPERATES

## A. Data Entered

The Repository is a library of engineering studies and maps done on Illinois rivers. Currently there are more than 950 federal, state, and private studies at ISWS. The following information about each study is on computer file:

- Title of report

- Author

- Type of report (flood insurance study, flood protection plan, etc.)

- Date of report

- Location of report (if not at ISWS)

- Whether the discharges are certified by IDOT-DWR

- Number of streams and tributaries studied

For each stream or tributary in the reports, the following information is entered into the computer file:

- EPA stream code

- Stream name

- County

- USGS hydrologic unit number

- River mile limit of study

- Method of establishing profile

- Reliability ranking (see below)

## B. How It Works

A computer program has been developed to cross-reference all of these items of information. Therefore, if an engineer or local official



wants to know what studies have been done on a certain stream, ISWS can produce a bibliography of the appropriate reports.

Any agency that has produced a floodplain study is requested to contribute to the Repository. If a copy of the report cannot be spared, ISWS will provide Data Entry Forms to be filled out by the author.

## C. Reliability Ranking

Some studies are prepared by more detailed methods and are reviewed closely by local and state officials. When two reports have been made on the same stream, the report that has used the more reliable methods is more appropriate for floodplain regulations. Therefore, when a report is entered into the file, ISWS assigns a reliability ranking to the 100-year flood elevation data as follows:

1. *State Certified Data:* Elevation data prepared for a Flood Insurance Study or IDOT-DWR Floodplain Regulations. These elevations are based on detailed cross-sectional information and a backwater analysis. They have undergone extensive review by state and local officials.
2. *Detailed Data Prepared for a Federal or State Agency:* Elevation data prepared with detailed cross-sectional information and a backwater analysis but not certified by IDOT-DWR.
3. *Other Detailed Data:* Elevations based on detailed cross-sectional information and a backwater analysis but prepared for some other organization.

4. *Adjusted Flood of Record*: Elevations derived from field observations and/or historical flood elevations. This type of study uses engineering judgment to develop 100-year flood data.
5. *Flood of Record*: Elevations taken from high water marks. This type of report makes no attempt to compute the 100-year flood.

If the Repository has no studies for a stream, the requestor is advised to try one of two other sources:

6. *IDOT Bridge Computations*: Calculations done in order to receive an IDOT-DWR Work in Water Permit. The information should be available for almost every bridge built in the last 20 years. Requests should be sent to:

Illinois Department of Transportation  
Division of Water Resources  
Floodplain Management Section  
2300 South Dirksen Parkway  
Springfield, IL 62764  
(217) 782-3862

7. *Depth and Frequency of Floods in Illinois*: This manual, prepared by the U.S. Geological Survey, presents a method for estimating flood depths on rural streams flowing under natural conditions (no bridges, levees, ice jams, etc.). ISWS will send information on this technique to requestors.

## State Water Survey Division

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